# **FRONTLINES**

linking alcohol services research & practice

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## National Institute on Alcohol Abuse and Alcoholism

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## The Alcohol and Drug Abuse Treatment Workforce

By Dennis McCarty, Ph.D., Oregon Health & Science University, Department of Public Health & Preventive Medicine

In the July/August 2002 issue of the journal *Health Affairs*, researchers lament the lack of data on the health care workforce and how this is hampering efforts to provide the best training and right mix of physicians and health professionals. The addiction treatment field is no exception. Unfortunately, the addiction treatment workforce is generally overlooked and there is even less information about the counselors who care for individuals in treatment for abuse and dependence on alcohol and other drugs.

What we do know is that the alcoholism and drug abuse treatment workforce is in transition, primarily from a field that has relied on experentially trained counselors to one that emphasizes graduate training. Careful studies of the workforce and its evolution will help guide policy and practice and contribute to the maturation of the field.

Currently, more than 67,000 practitioners provide psycho-social services for alcohol and drug abuse treatment. The workforce is a medley of counselors with a mixture of professional and experiential training. And academic training is highly variable, with a range of degree and certificate programs in many disciplines, including but not limited to social work, psychology, divinity and medicine.

This diversity, combined with a lack of data on workforce characteristics, inhibits efforts to strengthen and improve the workforce. At a time when the profession is in flux, few investigations examine variables that affect the quality and effectiveness of alcohol and drug abuse

counselors. Systematic health services research on the addiction treatment workforce is essential to developing more consistent training standards, assessing practitioner effectiveness, and improving the recruitment and retention of a fully qualified workforce.

#### **Evolution of the Workforce**

In the past, the stigma of alcoholism and drug addiction coupled with a lack of an organized system of care meant that the initial treatment workforce drew heavily on counselors whose primary training was their personal experience in recovery. Many counselors did not have any professional training. An analysis of 1979 data,<sup>1</sup> for example, indicates that less than one in four (22 percent) counselors and therapists had earned a master's or doctoral degree and more than one in three (37 percent) did not have a degree. The 1970s and 1980s saw the emergence of counselor certification initiatives. And the Birch and Davis report<sup>2</sup> emerged in 1984 as a seminal effort to identify core competencies and specify credentialing standards for counselors treating alcohol dependence.

The influence of individuals in recovery has strengthened the field and has been a unique aspect of treatment services for alcohol and drug abuse. Many patients express strong preference for counselors "who have been there—who know what I am going through." Yet, changing regulations and demands from payers are limiting the role of experiential counselors. This is another area where

### Editor's Note

The alcohol and drug abuse counselor workforce has undergone a dramatic shift in education and practice requirements. This issue of Frontlines describes the alcohol and drug abuse counselor workforce, reviews academic training curricula for the profession, offers insights into daily workforce issues, and makes clear the need for better data regarding the addiction treatment workforce.

Drawing on data from the Information Services Survey, Henrick Harwood of the Lewin Group, provides a profile of the behavioral health workforce. Paula K. Horvatich of Virginia Commonwealth University outlines recommendations for workforce development that were included in the Center for Substance Abuse Treatment's National Treatment Plan. She also provides insight into how the group reached its recommendations

From the University of Georgia, J. Aaron Johnson, Hannah Knudsen, and Paul Roman review the counselor turnover problem currently plaguing the substance abuse treatment field, noting that the turnover rate far exceeds the national average for other occupations.

Steve Gallon and Eldon Emundson. Jr., of the Oregon Health & Science University, each provide separate perspectives of the training, education, and supervision needs facing the substance abuse workforce. Finally, Arthur Schut, director of the Mid Eastern Council on Chemical Abuse in Iowa City, Iowa, shares his personal view of the challenges currently faced by those providing community-based services.

The articles in this issue make it clear that the time has come for more systematic attention to the production and maintenance of a strong workforce of addiction counselors.

research can play an important role. Research on the added value of emerging roles for individuals in early recovery (e.g., recovery coaches) can contribute to policy and programming.

"What we do know is that the alcoholism and drug abuse treatment workforce is in transition, primarily from a field that has relied on experentially trained counselors to one that emphasizes graduate training."

The proportion of counselors with graduate training and degrees has increased during the past two decades to where more than half have a master's or doctoral degree. Yet demands for differential diagnoses and the ability to work effectively with patients who present with cooccurring psychiatric disorders require continued counselor development. These skills are usually taught in graduate training programs for social work and psychology, but these programs frequently do not provide specialized training in treatment of alcohol and drug-related disorders. A lack of specialized graduate training continues to limit the professional development of the field.

#### **Current Academic Training**

Community colleges have become a major source of specialized academic training in the treatment of alcohol and drug disorders, yet substantial variations in degree and certification requirements exist. A large portion of counselors (many with master's and doctoral degrees) report receiving alcohol- and drugspecific counseling education through associate degree and certificate programs at two-year community colleges. A key issue that has yet to be examined empirically is the ability of certificate programs to provide sufficient background and skill development so that graduates are able to support and implement emerging treatment technologies, such as pharmacotherapies and behavioral interventions. Similarly, few studies have explored the quality

and consistency of training programs in twoyear and four-year colleges; the programs tend to operate with little or no external review and accreditation. There is a clear need to review curricula to determine if the training is consistent with current science on research-based interventions.

#### Turnover

Retention of well-trained clinical staff is also an ongoing challenge. Johnson and colleagues (in this issue) report an annual turnover rate of 18 percent in a sample of 400 treatment programs. They suggest that low salary levels (the current average annual income is \$34,000) contribute to the high turnover rate and cost programs substantial amounts for recruitment and training. Instability in the workforce inhibits improvements in the quality services and challenges the field to develop and implement a national plan for workforce development.

CSAT's National Treatment Plan, detailed in this issue, offers recommendations regarding steps that can be taken to improve the workforce, including formation of a National Workforce Development Office, construction of an infrastructure to facilitate recruitment. retention and skills development, and implementation of core curricula focused on counseling competencies. This plan, along with studies designed to track the evolution of the workforce and guide the maturation of clinical training strategies, will move the field in the right direction. Systematic efforts are needed to guide development of the workforce and to enhance their capacity for caring for the full range of individuals who seek treatment for alcohol and drug disorders. ■

#### References

- 1. Camp, J.M. & Kurtz, N.R. (1982). Redirecting manpower for alcoholism treatment. In Alcohol and Health Monograph 3, Prevention, Intervention and Treatment: Concerns and Models (pp. 371 — 397). Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.
- 2. Birch and Davis, Inc. (circa 1984). Development of Model Professional Standards for Counselor Credentialing. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism.

## Research Highlight

## Survey on Behavioral Health Workplace

By Henrick J. Harwood, The Lewin Group

Nationally, more than 67,000 staff delivered psycho-social (substance abuse and/or mental health) services in the three major substance abuse treatment modalities in 1998 (Table 1). These staff delivered therapy to 985,000 clients enrolled daily in outpatient, methadone and residential rehabilitation treatment in about 13,000 clinics. Data about the "behavioral health" workforce come from the Information Services Survey (ISS) performed by The Lewin Group and NORC in fall 1998. The ISS asked staff about their professional training, experience, and demographic characteristics, as well as use of standardized assessment tools and clinical practice guidelines.

More than half of psycho-social staff were licensed substance abuse counselors, while roughly equal numbers (16,000 each) were substance abuse counselors who had not yet attained licensing and other behavioral health professionals (mainly master's-level social workers, mental health counselors, and marriage and family therapists and psychologists who had not obtained certification/licensure as substance abuse counselors).

The "typical" clinician is a white, middle-aged woman with master's-level training, about 10 years of experience in substance abuse treatment, and less than five years tenure at her current clinic. Women make up almost 70 percent of the clinical workforce in the ISS. Forty percent of the substance abuse clinical staff is 45 to 54 years of age. The youngest (under 35) and oldest (over 54) clinicians make up similar proportions of the workforce, 14.4 percent and 12.9 percent, respectively. Three of four (74.2 percent) of all clinical staff are white, versus 10.6 percent who are African-American and Hispanic, respectively.

The ISS documents the increasing professionalization of this field as psycho-social staffers acquire higher levels of education and credentialing. Indeed, the ISS found that a majority (53 percent) of clinical staff in substance abuse treatment facilities has completed at least a master's degree. Very few (about 3 percent) clinicians have doctoral degrees. About 56 percent of licensed substance abuse counselors have at least master's degrees, as do almost 82 percent of other behavioral health professionals. However, unlicensed substance abuse counselors rarely have graduate degrees, and 56 percent of them have less than a four-year college degree.

Credentialing of addiction treatment staff is another marker of increasing professionalization. In addition to the 35,000 licensed substance abuse counselors, data from the ISS show that most unlicensed and other behavioral health professionals are working toward or have "specialty" substance abuse credentials. Fully 70 percent of unlicensed counselors said that they were currently working toward becoming licensed substance abuse treatment counselors, and another 10 percent indicated that they had

very recently completed licensing requirements. About 30 percent of behavioral health professionals currently working in substance abuse clinics had specialty credentials, and another 32 percent were working toward certification.

Although a cadre of counselors has substantial experience working in substance abuse treatment, a large proportion of clinical staff has relatively little experience in the field. The median tenure in the field for licensed counselors is almost 10 years -but only 4.5 years for unlicensed counselors and about six years for other behavioral health professionals. Thirty-six percent of total clinical staff (across all three types of staff) had worked five or less years, while 28 percent of the clinicians had worked in the substance abuse field for six to 10 years and 35.6 percent of the total staff population had provided substance abuse treatment for more than 10 years.

Moreover, movement across employers in this field appears to be substantial. A healthy majority (67.8 percent) of clinicians had worked at their current facility five or fewer years. Thus, the median tenure of employment was only about four years. This was nearly the same for licensed and unlicensed staff, as well as for behavioral health professionals. Thirty-nine percent of all staff had never worked at any other facility.

|   |                        |                          | Treatment Type                         |                               |                            |
|---|------------------------|--------------------------|--|-------------------------------|----------------------------|
|   | Licensed<br>Counselors | Unlicensed<br>Counselors | Other Behavior<br>Health Professionals | Total Psycho-<br>social Staff | Daily Census<br>of Clients |
| Total Staff   | 35,100                 | 15,550                   | 16,700                                 | 67,400                        | 985,000                    |
| Outpatient  | 26,100                 | 3,900                    | 11,500                                 | 41,500                        | 735,000                    |
| Residential Reha  | b 7,400                | 10,200                   | 3,900                                  | 21,500                        | 100,000                    |
| Methadone   | 1,550                  | 1,450                    | 1,300                                  | 4,300                         | 150,000                    |
| Source: The Information Services Survey (Lewin Group, 2000) |                        |                          |  |                               |                            |

## Workforce Development

## Workforce and the National Treatment Plan

By Paula K. Horvatich, Ph.D., Virginia Commonwealth University/Medical College of Virginia

"Inadequate quantitative data hinders analysis of workforce supply and demand in any meaningful way and hampers policy debates to the disadvantage of the workforce."

Substance abuse treatment can only be as good as the workforce that delivers it. Recognizing this, a new report issued by the National Treatment Plan (NTP) Initiative calls for developing and strengthening a comprehensive infrastructure that would attract and support a competent and diverse workforce. Conducted under the auspices of the Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment (CSAT), Changing the Conversation is based on the detailed review and recommendations of five expert panels convened by CSAT between April 1999 and February 2000.

The NTP report highlights the findings of the Workforce Issues Panel (Panel V), and provides the first comprehensive analysis of substance abuse treatment workforce issues, as well as recommendations for improving the workforce in the 21st century.

Panel V considered good substance abuse treatment to be a function of:

- Quality: education, training, credentialing, experience
- Quantity: supply, demand, staff distribution, and client-staff ratio
- Social characteristics: cultural congruence, cultural competency
- Practice: competence consistent with continuum of care, client experience and needs, and environmental context

As part of its work, Panel V produced a composite of the ideal workforce of the future. The group also issued eight recommendations split into three category types: (1) those that address the need for a federal agency with responsibility for workforce-related issues; (2) those that seek to strengthen the workforce infrastructure in the substance abuse treatment system; and (3) those that require implementation at a field and/or program level. Specifically, Panel V recommended:

- Establishing a national workforce development office at CSAT.
- Establishing funding mechanisms to support workforce recruitment, retention, and development initiatives.
- Advocating for competency-based career ladder opportunities in addiction treatment set-
- Advocating for all health and human service-related accrediting and certifying/recertifying agencies to require education and competence in addiction and inclusion of addiction questions on all.
- Establishing standards for didactic, clinical, and experiential education and training of addiction professionals and others.
- Advocating for and encouraging academic institutions to develop and offer degree programs for addiction professionals at the undergraduate level.
- Ensuring the development of core curricula based on CSAT's Technical Assistance Publication 21.
- Ensuring inclusion of basic addiction-related curricula in all levels of education and training programs for health and human services providers that is appropriate for their scope of practice.

In addition, Panel V identified current workforce topics causing concern and organized these within three issue groups: (1) Education and Training; (2) Credentialing; and (3) Supply, Demand, and Distribution. The Panel noted that these issues are complex, overlapping, and politically charged. An understanding of this is crucial to the development of effective workforce recommendations for the future.

Finally, although the Panel was able to issue an analyis and recommendations based on a descriptive and qualitative review of current

## Research Highlight

## Counselor Turnover in Private Facilities

By I. Aaron Johnson, Ph.D., Hannah Knudsen, M.A., Paul M. Roman, Ph.D., University of Georgia, Center for Research on Behavioral Health and Human Services Delivery

One problem plaguing the substance abuse treatment field is counselor turnover. Turnover can have a devastating impact on the treatment organization and its staff in several ways, including: less integration, lower employee satisfaction, reduced innovation, lower productivitv. and less accurate communication between managers and employees. But the impact of turnover on employee satisfaction and on productivity are particularly critical in the case of substance abuse treatment.

Employee dissatisfaction has been shown to increase the likelihood of counselor turnover. In addition, it may also affect productivity within substance abuse treatment facilities in two interrelated ways: increased caseload burdens on remaining staff, and decreased quality of client care. When counselors leave, caseload sizes increase as other counselors must assume responsibility for extra clients. These counselors then have less time to devote to each client. Quality of care continues to be affected even after a new counselor is hired as a replacement since the new counselor must "learn the ropes."

Compared to other occupations, substance abuse treatment counselors have an alarmingly high turnover rate. Though turnover rate obviously varies from center to center, results from the University of Georgia's National Treatment Center Study, a nationally representative sample of 400 private substance abuse treatment facilities, show an average turnover rate of 18.5 percent. This rate far exceeds the national average of 11 percent across all occupations and is significantly higher than the average annual turnover rates of teachers (13.2 percent) and nurses (12.0 percent), occupations traditionally known to have high rates of turnover.

The fact that substance abuse treatment counselors have a higher turnover rate than these two established occupations suggests a number of problems, including relatively high rates of dissatisfaction with current jobs, as well as a substantial proportion of unstable careers. Such a high rate of turnover is costly to the treatment centers as well as to those counselors who remain employed there. In addition to the monetary costs associated with finding and training a suitable replacement and other organizational "costs" involved with integrating a new staff member, the departure of fellow employees also affects the organization's climate and the morale of those employees who do not quit (Cherniss 1992, and Price 1989).

In contrast to the early days of substance abuse treatment when the typical counselor was a recovering white male with a high-school education, today's counselor workforce has a very different appearance. Slightly less than half of the counselors employed today in private substance abuse treatment are in recovery, and almost 56 percent are female. Approximately 54 percent have at least a master's degree and more than 55 percent are certified alcohol and drug abuse counselors.

In some ways, however, the increased level of professionalization that has occurred within the substance abuse treatment field over the past two decades may have had an adverse effect on turnover rate. Specifically, the improvement in qualifications has not been well matched by an improvement in remuneration. While there has been a substantial increase in levels of education and certification during this period, average counselor salaries remain very low.

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## **Training**

## Continuing Education and Supervision

By Steve Gallon, Northwest Frontier Addiction Technology Transfer Center, Department of Public Health & Preventive Medicine, Oregon Health & Science University

"Supervisors receive little instruction in the mentoring, teaching, and evaluative aspects of their role before they take the job."

Taken as a whole, substance abuse treatment professionals constitute a rather unique workforce. Data gathered by the Northwest Frontier Addiction Technology Transfer Center indicates that 50 percent of those who provide direct client services in the region do so as a second career and 60 percent do so as a result of personal or family experience with addiction. Such professionals tend to be motivated by the service nature of their work as opposed to any upward movement along a career ladder. The workforce, in the Northwest, is older (average age of 46 years), highly mobile (25 percent average annual agency turnover rate), and educated at the undergraduate level (65 percent have a bachelor's degree or less).

While most states require direct service personnel to have specialized course work in addictionrelated subjects, the reality is that most practitioners acquire their treatment skills on the job. Within such an environment, effective continuing education, training and supervision are essential. However, in times of limited fiscal resources, funds to support in-service training, attendance at external workshops and conferences, and the time available to do clinical supervision are limited.

One of the greatest challenges facing care providers is the transfer and integration of sciencebased interventions into community service settings. We have learned that system improvements require more than simple exposure to new ideas and methods. Skill-based experiential training and mentoring of the entire clinical team over an extended period of time are necessary for an intervention to be used consistently and effectively. Issues related to administrative policy and procedure, agency values and readiness, supervisory practices, development of staff proficiency and consumer relevance all must be taken into account in order for a new intervention or model to be fully infused into the culture and practice of the agency.

No matter whether an agency is large or small, there is a need for ongoing, regularly scheduled clinical supervision. But in small agencies and in rural settings, clinical supervisors may not be on site, hampering their ability to observe direct service staff at work. Without firsthand observation or video/audio taping, the supervisor must rely on counselor self-report, and not even the most proficient clinician is able to objectively report the complexities of a client interaction with full accuracy. How can a clinician continue to develop skills without objective feedback from an involved supervisor?

Also at issue is the fact that few training programs exist to prepare supervisors for their new roles. Although certification for clinical supervisors is now available from national credentialing organizations, few states require it. Supervisors receive little instruction in the mentoring, teaching, and evaluative aspects of their role before they take the job. Even more important, clinical supervisors often are not given sufficient time to observe, prepare feedback, build productive mentoring relationships, prepare learning plans, and monitor progress of their supervisees.

Research must be applied to better understand the role of clinical supervision. Researchers might ask: What is the current state of clinical supervision in community treatment agencies? What methods are effective in mentoring counselor interns and practicing professionals? What are the impacts of providing clinical supervision on the quality of care and treatment outcomes? Answers to questions like these will help clarify the kinds of system improvements that will facilitate the delivery of "best practices" and the continued improvement of outcomes in addiction treatment settings. Strong supervision is a key to maintaining fidelity to science-based therapies and to improving clinical services.

## **Training**

## Perspective

Arthur Schut, Director, Mid Eastern Council on Chemical Abuse, Iowa City, Iowa

It has been over 30 years since I began working in community-based services for those with alcohol and drug problems. When I entered the field, counselors were divided along lines of education versus life experience. But the field is changing. In recent years, "life experience or education" has shifted to "life experience and education." Many counselors in recovery have returned to school, completed an advanced degree, and are actively practicing. Certification specific to alcohol and drug services is now expected.

Unfortunately, graduates of most professional degree programs are woefully ignorant regarding alcohol and drug abuse issues. Many graduates depart professional training programs with a rudimentary knowledge of alcoholism and addictions, yet they have the dangerous illusion that this knowledge is sufficient. Since degree programs specific to alcohol and drug abuse treatment are uncommon, service providers must provide internal training programs addressing basic alcohol/addictions prevention and treatment skills.

I have also seen the diversity of the client population increase in complexity and acuity. Co-occurring mental health and alcohol/ drug problems exist, but the reality, at a service delivery level, is that many clients have multiple difficulties—and they do not always include a mental illness diagnosis. To cope, the workforce needs expertise in a broad range of issues.

The addictions workforce continues to face challenge with creativity, humor, and persistence. I see hope in the field. It rests in the young workers attracted to working with people who have difficulty with alcohol and drugs. Some of the best and brightest continue to enter and remain in the field. Persons in recovery are among them.

## Significant Variation in Undergraduate Training Programs

By Eldon Edmundson, Jr., Ph.D., Department of Public Health and Preventive Medicine, Oregon Health & Science University

Colleges and universities play a major role in creating a substance abuse treatment workforce that provides quality and consistent treatment. Yet there is great variability in the quality of training, the range of courses, and the level of degree requirements they require at the undergraduate level. A review of undergraduate programs, using published catalogs or Internet Web sites, shows the system-wide variability that exists in the education of substance abuse professionals.

The National Association of Alcohol and Drug Abuse Counselors Web site (www.naadac.org) lists approximately 260 programs in the United States that offer formal study with the intent of preparing the student to become a substance abuse related practitioner. Approximately 55 percent of the programs listed are at the community college or two-year level, 32 percent at the graduate level and 13 percent at the bachelor level.

Undergraduate programs to prepare practitioners for the substance abuse treatment profession at two-year and four-year colleges and universities vary significantly in how they title their programs. The programs also vary in the type of degree awarded, the number of drug- and alcohol-related courses required for the degree or certificate, whether or not the colleges specify that the program prepares students to become counselors, and if the curriculum prepares graduates for certification by state certification bodies.

Programs at the Bachelor Level: In 37 programs reviewed, 19 different names were used to describe the course of study. The phrase "addiction studies" was used by 20 percent of the programs, "alcohol and drug studies" by 10 percent of the programs; and "addiction counseling" by 8 percent. The rest of the programs used a combination of descriptors.

The type of program offered also varied. Of 26 full bachelors degree granting programs, 73 percent (19) were Bachelor of Science degrees, and 27 percent Bachelor of Art degrees. Eighteen of the 37 institutions offered minors, 26 offered bachelor degrees with a major in a substance abuserelated field, 10 offered certificates and only two offered a major, minor and certificate program.

In addition, a specific program description or course title is not necessarily a clear indicator of the extent of specific substance abuse-related course content programs required for the program of study. There is clear variation in the number of credits required by different undergraduate programs. However, those programs that provided a major (as compared to a minor or specialty) required 30—45 quarter credits of course work, where an addictions related term was present either in the course title or course description.

Two-Year Programs: Of 81 two-year programs reviewed throughout the nation, 37 different names were used to describe the substance abuse education program. The most frequent name (Chemical Dependency Counseling) was used by 16 of the two-year programs. Five names (Chemical Dependency Studies, Drug and Alcohol Rehabilitating Counseling, Chemical Dependency, Substance Abuse Counseling, and Substance Abuse) were used by seven or eight colleges and the remaining names by three or fewer colleges.

As is true for bachelor's programs, two-year programs used both arts and science associate degrees. Because many of the substance abuse education programs were in technology-related divisions at the community college, the most frequent degree was the associate of applied science (45 of 75 degrees offered). Fourteen of

issues affecting workforce in substance abuse, a lack of adequate quantitative data constrained Panel V's efforts to thoroughly analyze identified problems in the workforce. No current national, common workforce data set or repository of substance abuse treatment staff data currently exists. Inadequate quantitative data hinders analysis of workforce supply and demand in any meaningful way and hampers policy debates to the disadvantage of the workforce. This situation emphasizes the need for new precursory data collection on the workforce, as well as for effective secondary research.

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the community colleges awarded an associate of arts degree and 16 awarded an associate of science degree.

Clearly, in order to begin to create more consistency in the quality and competency level of the alcohol and drug abuse treatment workforce, attempts at consistency need to start with basic academic preparation programs.

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From 1995 to 2002, the average counselor salary increased from \$29,767 to \$34,125, an average annual increase of less than 2 percent. Individuals with higher levels of education are more occupationally mobile and therefore more likely to move into occupations that are less demanding, less emotionally draining, and offer higher salaries than substance abuse treatment.

Data collected from the counselors at these facilities indicate turnover might be reduced by 1) increasing salaries, 2) allowing counselors more autonomy in their dayto-day work, 3) improving communication between management and counselors, and 4) improving the aspects of the job that lead to emotional exhaustion.

#### References:

Cherniss, C. 1992. "Long-Term Consequences of Burnout - an Exploratory-Study." Journal of Organizational Behavior 13:1-11.

Lake, E. T. 1998. "Advances in understanding and predicting nurse turnover." Research in the Sociology of Health Care 15:147-171.

Price, J. L. 1989. "The impact of turnover on the organization." Work and Occupations 16:461-473.

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